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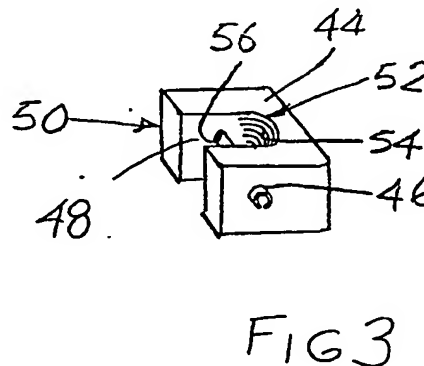
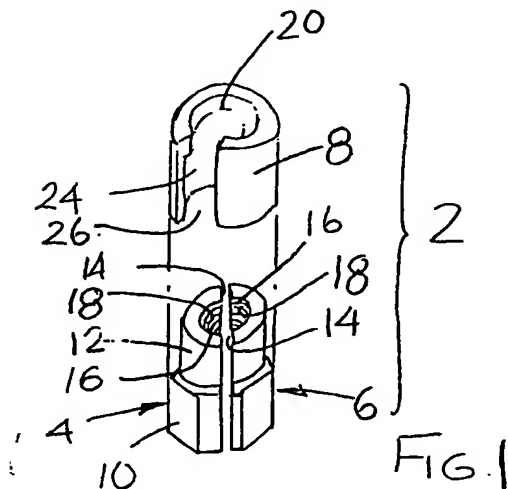
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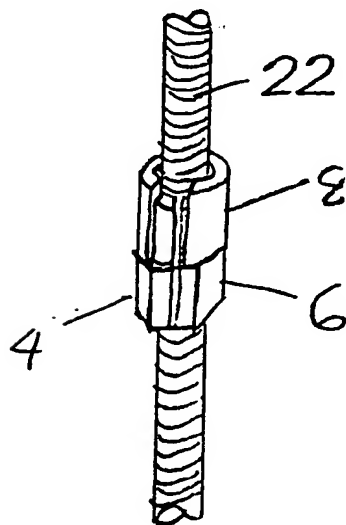
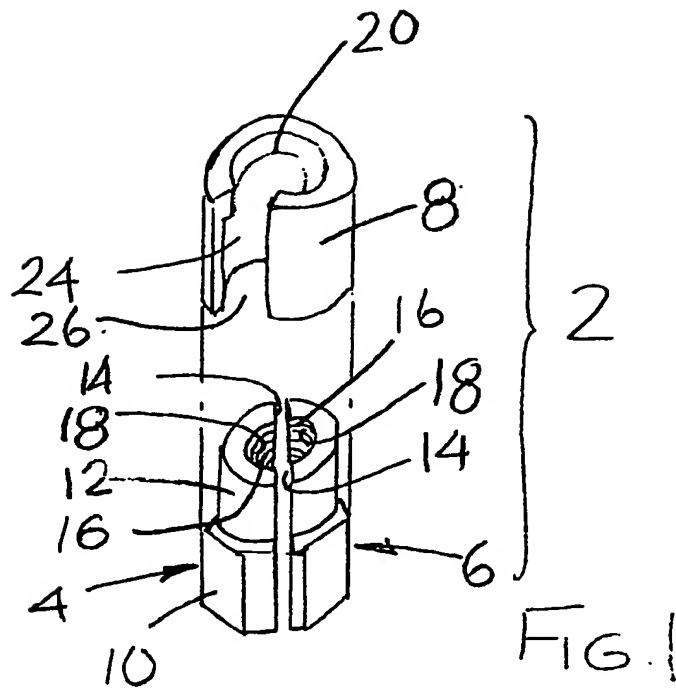
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(54) Dismantleable nuts

(57) A nut comprises two threaded parts 4, 6 (Figure 1) or a single threaded part 44 (Figure 3), and holding means for holding the screwthread of the threaded part(s) against the thread of a threaded rod 22. The holding means may be a cap 8 for engaging the semi-cylindrical ends of the threaded parts 4, 6, or may be a hollow slit pin 46 engaging a bore 55 in the single threaded part 44. The nut may be split diagonally, the parts 4, 6 may be hinged together, the cap 8 may be replaced by a circlip or by a bifurcated member, or the nut may be a wing nut.



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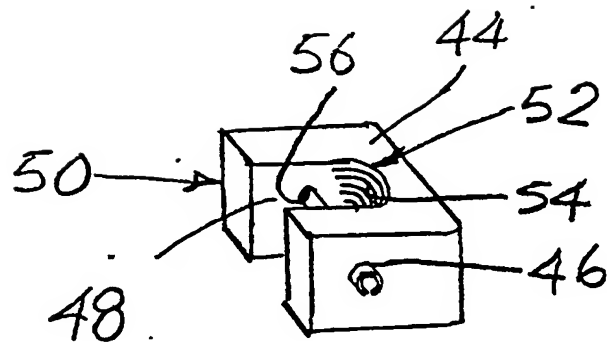


FIG 3

- 1 -

NUT OR LIKE THREADED DEVICE

This invention relates to a nut or like threaded device.

5 On many occasions, it is necessary or desirable to thread a nut or like threaded device onto a threaded rod. However, there are a number of problems in achieving such a threading quickly and without excessive preparation or dismantling of apparatus. Particular
10 problems exist in the building industry where the ends of threaded rods on to which a nut or like threaded device needs to be screwed are distorted, rusted or otherwise damaged. Thus considerable time is wasted in preparing the ends of the rods to take the nut or like
15 threaded device, making the operation very labour intensive and thus expensive. At other times, it is necessary to attach something to a screwed rod, the ends of which are inaccessible. In these cases, if a nut
20 or like threaded device is to be used, then the end of the rod must be made accessible and this means dismantling any apparatus around a rod end so as to enable the end of the rod to be exposed. Such an operation is also very labour intensive.

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The present invention seeks to provide a nut or like threaded device in which the above problems which are present in the use of conventional nuts are obviated or substantially reduced.

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According to a first aspect of the invention, there is provided a nut or like threaded device comprising a threaded part having a part cylindrical groove therein, the groove carrying a screw thread for engagement with
35 the thread of a threaded rod, and holding means for holding the screw thread of the threaded part against the thread of the threaded rod.

According to a second aspect of the invention, there is provided a nut or like threaded device comprising two threaded parts, each having a part cylindrical threaded groove therein, the parts being adapted to be positioned
5 around the thread of a threaded rod so as to substantially surround the rod and engage the threads thereof, and holding means for holding the two parts together around the threaded rod.

10 Preferably, the two parts comprise halves of a nut so that, when placed together around a threaded rod they form a substantially complete nut and the holding means comprises a cap locatable over the nut halves in a longitudinal direction thereof so as to hold them
15 together about the threaded rod, the cap having a radial slot therein of a width at least as great as the diameter of the threaded rod to enable the cap to be inserted sideways on to the threaded rod prior to be4 fitted over the nut halves.

20

Each of the two nut halves of the nut or like threaded device may comprise a first portion having a part hexagonal outer surface for engagement by a spanner for tightening up the nut or like threaded device and a
25 second, part cylindrical portion axially adjacent to the first portion and over which the cap fits to hold the two nut halves together.

The invention will now be described in greater detail,
30 by way of example, with reference to the drawings, in which:-

Figure 1 is an exploded view of one form of nut or like threaded device in accordance with the invention;

35

Figure 2 is a perspective view of the nut or like

threaded device of figure 1 in position on a threaded rod, and

Figure 3 is a perspective view of an alternative form of nut in accordance with the invention.

While the term "nut or like threaded device" covers both nuts as such and any other arrangement which is to be threaded onto a threaded rod, in the following, for ease of description, the nut or like threaded device will be referred to merely as a nut.

Referring firstly to figures 1 and 2 of the drawings, there is shown a nut 2 comprising three parts viz:- two nut "halves" 4 and 6 and a cap or holding member 8.

Each of the two nut halves 4 and 6 are identical and may be considered as a complete nut which has been cut diametrically in half although, in practice, it is unlikely that they would be manufactured in this way. Thus each nut half comprises a lower region 10, one side of which is partly hexagonal, and an upper region 12, the same side of which is semi-cylindrical. The other side of the nut has a planar surface 14 into which is let a semi-cylindrical groove 16 carrying a screw thread 18. It is to be observed that, when the nut halves 4 and 6 are placed together, the diameter of the cylindrical part formed by the regions 12 is smaller than the distance across the flats of the hexagon formed by the regions 10.

The holding member 8 is in the form of a generally cylindrical cap having an aperture 20 in its upper end of a diameter at least equal to the overall diameter of a threaded rod 22 with which the nut is to be used. Internally, the cap 8 has a cylindrical hollow 24 whose

inside diameter is equal to the external diameter of the cylindrical part 12 of the combined nut halves 4 and 6 when assembled on the threaded rod 22. The holding member has a slit 26 extending along its entire 5 longitudinal length, the width of the slit being at least as large as the diameter of the rod 22.

The use of the above described nut will now be considered: -

10

First, a position on the rod 22 close to where the nut is to act is selected and the cap 8 is slid sideways onto the rod 22 by means of the slit 26 with the wider open end 28 of cap 8 away from the surface against which 15 the nut will eventually be screwed. Then the two nut halves 4 and 6 are positioned around the rod with the cylindrical part 12 of the nut adjacent to the end 28 of the cap 8. The cap 8 is then slid longitudinally along the rod 22 and over the cylindrical part 12 of the nut 20 halves 4 and 6 to hold the nut halves 4 and 6 securely around the rod 22 while at the same time preventing the sideways movement of the cap 8 off the rod 22. The completed nut 2 can then be screwed up using a spanner on the hexagon 10 in the usual way. Once the cap has 25 come into engagement with the surface against which the nut is to act, it will clearly be unable to move longitudinally and thus the nut will be maintained in its complete state.

30 To dismantle the nut from the rod, the nut is unscrewed from the surface against which it was acting by a distance sufficient to allow the cap 8 to be slid longitudinally off the cylindrical part 12 of the nut halves 4 and 6. This will free the nut halves 4 and 6 35 enabling them to be removed from the rod 22 leaving the cap 8 to be slid sideways off the rod 22 by way of its

slit 26.

Figure 3 shows a second embodiment of the invention. in this case, the nut 42 is formed of only two parts, a nut 5 body 44 and a hollow slit rod 46. As shown, the nut body comprises a square piece of metal having a slot 48 therein extending from one side 50 of the body 44 and encompassing the central area 52 thereof. The slot 48 ends in a semi-circle whose axis is central to the body 10 44. The semi-circular end of the slot 48 carries a screw thread 54 on its curved walls and has a thread diameter suitable to cooperate with a threaded rod (not shown) with which it is to be used. The width of the straight part of the slot 48 is at least as large as the diameter 15 of the threaded rod. Passing through the entire body 44 at right angles to the slot 48, and passing through the side walls thereof is a bore 56 for receiving the hollow slit rod 46 which is a push fit therein. Then position of the bore 56 is so arranged that when the thread 54 is 20 in engagement with the thread of the rod with which it is to be used, the slit rod 46 will engage the opposite side of the rod so as to retain the body 44 thereon and the threads in engagement.

25 In use, it is merely necessary to remove the rod 46 from the bore 56, slip the body 44 sideways onto a threaded rod of the appropriate diameter and thread and reinsert the rod 46 in the bore 56. The body can then be screwed 30 up the rod in the usual way.

It will be appreciated that many different forms of nut can be produced within the scope of the present invention. For example, a two part nut could be formed such that it is split into two parts diagonally. The 35 ends of the two parts are formed with opposing hooks at opposite ends, whereby one end of one part would fit

into the hook end of the other part at one longitudinal end while the end of said other part would fit into the hook end of the said one part at the other longitudinal end.

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Another possibility, particularly with larger nuts, consists of taking the two nut halves and hinging them together at one side, the nut halves being held closed when assembled to a threaded rod by some form of clip
10 located at the other side.

Instead of the use of the cap 8 in the first embodiment, the two nut halves could be held together using a spring circlip located in a circular groove around the
15 nut halves. Alternatively, the same effect could be achieved with a bifurcated member cooperating with grooves forming opposed flats in the nut halves. As well as the use for retaining two nut halves, the circlip or bifurcated member could be used to close off the slot 48
20 in the second embodiment.

Various minor modifications may be made to the arrangement of the two embodiments described. For example, the cap 8 in the first embodiment may be purely
25 of cylindrical form instead of having the reduced aperture at the end away from the nut halves. Alternatively, it could be made to fit over the entire nut, having both external and internal hexagonal surfaces. However, in this case, a cap construction is
30 required to avoid the cap passing completely over the nut halves and releasing them.

The exterior of the nuts need not be either hexagonal (figure 1) or square (figure 3) but could be of any
35 suitable operative shape. In one case, for example, the nut halves could be formed with radially extending

projections so as to form wing nuts.

From the above described embodiments it will be seen that the invention can provide a nut or like threaded
5 device which can be screwed onto a threaded rod even if the end of the rod is distorted or otherwise inaccessible. Further more, the nut can be placed on the rod adjacent to the surface against which it is intended to act, thus saving lengthy manipulations of the nut
10 which could take place where the rod is long and access to it is limited.

CLAIMS

1. A nut or like threaded device comprising a threaded part having a part cylindrical groove therein, the
5 groove carrying a screw thread for engagement with the thread of a threaded rod, and holding means for holding the screw thread of the threaded part against the thread of the threaded rod.
- 10 2. A nut or like threaded device comprising two threaded parts, each having a part cylindrical threaded groove therein, the parts being adapted to be positioned around the thread of a threaded rod so as to substantially surround the rod and engage the threads thereof , and
15 holding means for holding the two parts together around the threaded rod.
3. A nut or like threaded device as claimed in claim 2, wherein the two parts comprise halves of a nut so that,
20 when placed together around a threaded rod, they form a substantially complete nut.
4. A nut or like threaded device as claimed in claim 2 or 3, wherein the holding means comprises a cap
25 locatable over the nut halves in a longitudinal direction thereof so as to hold them together about the threaded rod.
5. A nut or like threaded device as claimed in claim 4,
30 wherein the cap has a radial slot therein of a width at least as great as the diameter of the threaded rod to enable the cap to be inserted sideways on to the threaded rod prior to being fitted over the nut halves.

6. A nut or like threaded device as claimed in any one of claims 2 to 5, wherein each of the two nut halves of the nut or like threaded device comprise a first portion having a part hexagonal outer surface for engagement by
5 a spanner for tightening up the nut or like threaded device and a second, part cylindrical portion axially adjacent to the first portion and over which the cap fits to hold the two nut halves together.

10 7. A nut or like threaded device as claimed in claim 1, wherein the threaded part comprises a polygonal body member hhaving a slot therein extending from one side thereof and encompassing a central area of the body, the slot ending in a semicircle whose axis is central to the
15 body and carries the screw thread for engagement with the thread of a threaded rod.

8. A nut or like threaded device as claimed in claim 7, wherein the body member is square.

20

9. A nut or like threaded device as claimed in claim 7 or 8, wherein the holding means comprises a rod passing through aligned bores in the sides of the slot and is so arranged as to engage one side of the threaded rod when
25 the thread of the body part is in engagement with the thread of the threaded rod.

10. A nut or like threaded device as claimed in claim 9, wherein the rod is a hollow slit rod which is a push fit
30 therein.

11. A nut or like threaded device substantially as described herein with reference to the drawings.